UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

	Application No.	Applicant(s)
Office Action Summary	09/843,499	JASINSCHI ET AL.
	Examiner	Art Unit	
	Jamie Vent	2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 August 2006*.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some *   c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Response to Arguments

Applicant's arguments filed August 14, 2007 have been fully considered but they are not persuasive. On pages 8-10 applicant argues that Nafeh in view of Walker in further view of Foote et al fails to disclose the following limitation, "combining the probability distribution for each sub-segment by averaging the probability distribution for each sub-segment to forma combined probability distribution" as recited in Claim 1. It is noted in the calculation of probability of each frame is seen in Figure 20, wherein the method of computing the probability of each frame is shown. Thereby the calculation of a frame meets the limitation, as a frame is a sub segment of the video stream. Although, all of applicants points are understood the examiner can not agree and therefore the rejection is maintained.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2.   Claims 1-6 rejected under 35 U.S.C. 103(a) as being unpatentable over Nafeh (US 5,343,251) in view of Walker et al (US 6,928,233) in further view of Foote et al (US 6,751,354).

[claim 1]

In regard to Claim 1, Nafeh discloses a method for selecting dominant multi-media cues from a number of video segments, comprising the steps of:

- calculating a multi-media information probability for each frame of the video segments ;

- dividing each of the video segments into sub-segments (Column 2 Lines 55-63 and Column 3 Lines 20-57 describes the dividing the video segments into sub segments);

- calculating a probability distribution of multi-media information for each of the sub-segments using the multi-media information for each frame (Column 6 Lines 6-12 describes calculating the probability information for each sub-segment);

- combining the probability distribution for each sub-segments to form a combined probability distribution (Column 6 Lines 14-50 describes combining the probability distribution for each sub segment to form the entire segments probability); and

- selecting the multi-media information having the highest combined probability in the combined probability distribution as the dominant multi-media cues (Column 5 Lines 52-67 describes selecting of the multi-media information which has desired weight or probability distribution); however, fails to disclose that the dividing each of the video segments into sub-segments using pre-selected multi-media characteristic and combining the probability distribution for each sub segment by averaging the probability distribution for each sub-segment for a combined probability distribution.

Walker et al discloses a signal processing apparatus wherein the video processor determines scene changes through extraction of visual/audio segments. Furthermore, it is noted in Column 3 Lines 63+ through Column 4 Lines 1-10 describes the dividing of the segments using multi-media characteristic such as speech, music, noise, and silence. The detection of the video segments through these characteristics provides the proper identification of segments through a

reliable format completed by the apparatus. Foote et al discloses a method for classifying video frames using statistical models by averaging the probability distribution for each sub-segment for a combined probability distribution as further described in Column 36 Lines 30+. Furthermore, the calculation of probability of each frame is seen in Figure 20, wherein the method of computing the probability of each frame is shown. Thereby the calculation of a frame meets the limitation, as a frame is a sub segment of the video stream. The use of ability of averaging the probability for each sub-segment allows for a more accurate classification of the signal. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the selection of multi-media cues, as disclosed by Nafeh, and incorporate a system wherein the segments are divided into sub-segments using pre-selected multi-media characteristic, as disclosed by Walker et al, and further incorporate a method for determining the probability distribution for each sub-segment, as disclosed by Foote et al.

[claim 2]

In regard to Claim 2, Nafeh discloses a method, wherein the video segments are selected from a group consisting of commercial segments and program segments (Column 2 Lines 1-7 describes the video segments comprise program and commercial segments).

[claim 3]

In regard to Claim 3, Nafeh discloses a method, wherein the dividing video segments into sub-segments is performed using close caption information included in the video segments (Column 3 Lines 44-45 describes the use of closed captioning for classifying and dividing the video segments into sub-segments).

[claim 4]

In regard to Claim 4, Nafeh discloses a method, wherein the combining the probability distribution for each sub-segments is performed by the operation selected from a group

consisting of an average or a weighted average (Column 5 Lines 64-67 through Column 6 Lines 1-24 describes that the selected group of sub-segments consist of weighted average of the segments for classification).

[claim 5]

In regard to Claim 5, Nafeh discloses a method wherein the combined probability distribution is formed from probability distributions of sub-segments of multiple programs (Column 2 Lines 55-62 describes that calculations for probability are performed on the sub-segments of multiple programs).

[claim 6]

In regard to Claim 6, Nafeh discloses a method, which further includes initially selecting multi-media cues characteristic of a given TV program type or commercial (Column 2 Lines 63-67 describes the selection of multi-media cues that are classified as a TV program or commercial).

3.   Claims 7-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nafeh (US 5,343,251) in view of Walker et al (US 6,928,233) in further view of Foote et al (US 6,751,354) in further view of Maeda (US 6,580,679).

[claims 7, 12, & 15]

In regard to Claims 7, 12, and 15, Nafeh in view of Walker et al in further view of Foote, discloses an apparatus method of segmenting and indexing video, comprising the steps of:

- pre-processing the video (Column 2 Lines 55-62 describes processing the video for classification/indexing);

- selecting program segments from the video (Column 3 Lines 20-32 describes the selecting of program segments from the video);

- dividing the program segments into program sub-segments (Column 2 Lines 55-63 and Column 3 Lines 20-57 describes the dividing the video segments into sub segments);

- storing the indexed program sub-segments (Figure 1a shows the storing of indexed program sub-segments in the memory buffer); however, fails to disclose performing genre-based indexing on the program using multi-media cues characteristic of a given genre of program and the dividing each of the video segments into sub-segments using pre-selected multi-media characteristic and calculating, combining, and selecting the probability distribution for each sub segment by averaging the probability distribution for each sub-segment for a combined probability distribution.

Maeda discloses a method of managing file regions on a recording medium. It is noted in Column 5 Lines 15-60 that the program segment is indexed according to genre of the program to allow for the user to access the segments through desired genre that one would like to search. Foote et al discloses a method for classifying video frames using statistical models by averaging the probability distribution for each sub-segment for a combined probability distribution as further described in Column 36 Lines 30+. The use of ability of averaging the probability for each sub-segment allows for a more accurate classification of the signal. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the classifying method, as disclosed by Nafeh in view of Walker, and incorporate a the method of indexing the segments according to genre, as disclosed by Maeda.

[claim 8]

In regard to Claim 8, Nafeh discloses a method of selecting program segments is performed using multi-media cues characteristic of a given type of video segment (Column 2 Lines 1-7 describes the video segments comprise program and commercial segments).

[claim 9]

In regard to Claim 9, Nafeh discloses wherein the dividing the program segments into program sub-segments is performed according to closed caption information included in the program segments (Column 3 Lines 44-45 describes the use of closed captioning for classifying and dividing the video segments into sub-segments).

[claims 10, 13, & 16]

In regard to Claims 10, 13, and 16, Nafeh in view of Walker et al, discloses a method of classifying program segments however; fails to disclose the following:

- comparing the multi-media cues characteristic of a given genre of program to each of the program sub-segments; and

- inserting a tag into one of the program sub-segments if there is a match between one of the multi-media cues and sub-segments.

Maeda discloses a method of classifying program segments wherein the segments are compared by the genre of each sub-segment as disclosed in Column 7 Lines 7-37. Furthermore, a tag is inserted into the program segments, which discloses the genre of the segment as seen in Figures 4a-4b. Thereby allowing the segments to be compared and marked when genres are matching which allows user easier access to the programs that fall under specific genre that they maybe searching. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use a system for classifying program segments, as disclosed by Nafeh in view of Walker et al, and incorporate a method of

classifying the program segments by genre and marking the genres for comparison, as

disclosed by Maeda.

[claims 11, 14, & 17]

In regard to Claims 11, 14, and 17 Nafeh discloses a method as recited in Claim 7, which further

includes performing object-based indexing on the program sub-segments (Column 5 Lines 30-

67 describes the object-based indexing of the program sub-segments).

[claims 18, 19, 20]

In regard to Claim 18, 19, 20, Nafeh discloses a method wherein the average is selected from

the group consisting of: a straight average and a weighted average (Column 4 Lines 63+

through Column 5 Lines 1-10 describes the method wherein the average is selected from a

group of straight and weighted averages).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jamie Vent whose telephone number is 571-272-7384. The examiner can normally be reached on 7:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Miller can be reached on 571-272-7353. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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